

REMARKS/ARGUMENTS

The Examiner is thanked for the Office Action mailed May 28, 2008. The status of the application is as follows:

- Claims 1-21 are pending, claims 1, 5, 9 and 12 have been amended, claim 4 has been cancelled, and claims 13-21 have been added;
- The specification is objected to;
- Claim 12 is rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter;
- Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Elbakri et al. (US 6,507,633);
- Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elbakri et al. in view of Lange et al. (Globally Convergent Algorithms for Maximum a Posteriori Transmission Tomography); and
- Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elbakri et al. in view of August (US 2003/0219152).

The objections and rejections are discussed below.

The Objection to the Specification

The specification is objected to for referring to claims 1-12, which may create discrepancies and new matter issues if future claims amendments are made. The specification has been amended as recommended by the Examiner. As such, the objection to the specification should be withdrawn.

The Rejection of Claims 12 under 35 U.S.C. 101

Claim 12 stand rejected under 35 U.S.C. 101. In particular, the Office asserts that the claim is directed to non-statutory subject matter. This rejection should be withdrawn as claim 12 has been amended herein as suggested by the Office.

The Rejection of Claims 1-6 and 8 under 35 U.S.C. 102(b)

Claims 1-6 and 8 stand rejected under 35 U.S.C. 102(b) as being anticipated by Elbakri et al. This rejection should be withdrawn because Elbakri et al. does not teach each and every element as set forth in the subject claims and, therefore, does not anticipate claims 1-6 and 8.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). MPEP §2131.

Claim 1 has been amended to incorporate aspects of cancelled claim 4, now recites a method of artifact correction in a data set of an object of interest, the method comprising, *inter alia*: the reconstruction of the image being performed on the basis of an iterative algorithm comprising a plurality of update steps until an end criterion has been fulfilled, where each update step comprises subtractions weighted with an intrinsic statistical error σ_{Y_i} , based on measured photon counts Y_i , wherein σ_{Y_i} is equal to the square root of Y_i . Elbakri et al. fails to teach or suggest each and every one the above aspects. In particular, Elbakri et al. discloses separating an initial computed tomography image into different sections to obtain a segmented image and calculating a series of intermediate corrected images based on the segmented image utilizing a statistical algorithm, which converges to obtain a final corrected image that has significantly reduced beam-hardening artifacts (see column 5, lines 53-67). Elbakri et al. further discloses using ordered subsets during the iterations, where the algorithm involves a summation over sinogram indices (i.e. back projection—See column 12, lines 60-67). Elbakri et al. also discloses calculating gradients and measurement means (see column 19, lines 56-57). However, Elbakri et al. fails to teach or suggest ***weighting with an intrinsic statistical error which is equal to the square root of the measured photon counts*** as recited in amended claim 1. Therefore, Elbakri et al. does not anticipated claim 1, and the rejection of claim 1 should be withdrawn.

Claims 2-6 and 8 depend from claim 1 and are allowable at least by virtue of their dependencies. As such, the rejection of claims 2-6 and 8 should be withdrawn.

The Rejection of Claims 9-12 under 35 U.S.C. 103(a)

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elbakri et al. in view of August. Amended **claims 9 and 12** recite limitations similar to those recited in claim 1. As such, the discussion with regard to claim 1 applies *mutatis mutandis* to claims 9 and 12, and the rejection of claims 9 and 12 should be withdrawn. **Claims 10-11** depend from claim 9 and are allowable at least by virtue of their dependencies. Consequently, the rejection of claims 10-11 should be withdrawn.

The Rejection of Claim 7 under 35 U.S.C. 103(a)

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elbakri et al. in view of Lange et al. **Claim 7** is dependent from claim 1 and is allowable at least by virtue of this dependency. Accordingly, the rejection of claim 7 should be withdrawn.

New Claims 13-21

Newly added **claims 13-21** emphasize various aspects and include aspects absent from the prior art. No new matter has been added. Entry and allowance of claims 13-21 is respectfully requested.

Claim 5

Claim 5 has been amended herein to the informality of being dependent on a cancelled claim. The amendment has not been made to address any issue of patentability.

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Conclusion

In view of the foregoing, it is submitted that the claims distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,



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